



SCHOTT
glass made of ideas

MAGIRA® LightPoints
MAGIRA® SmartView

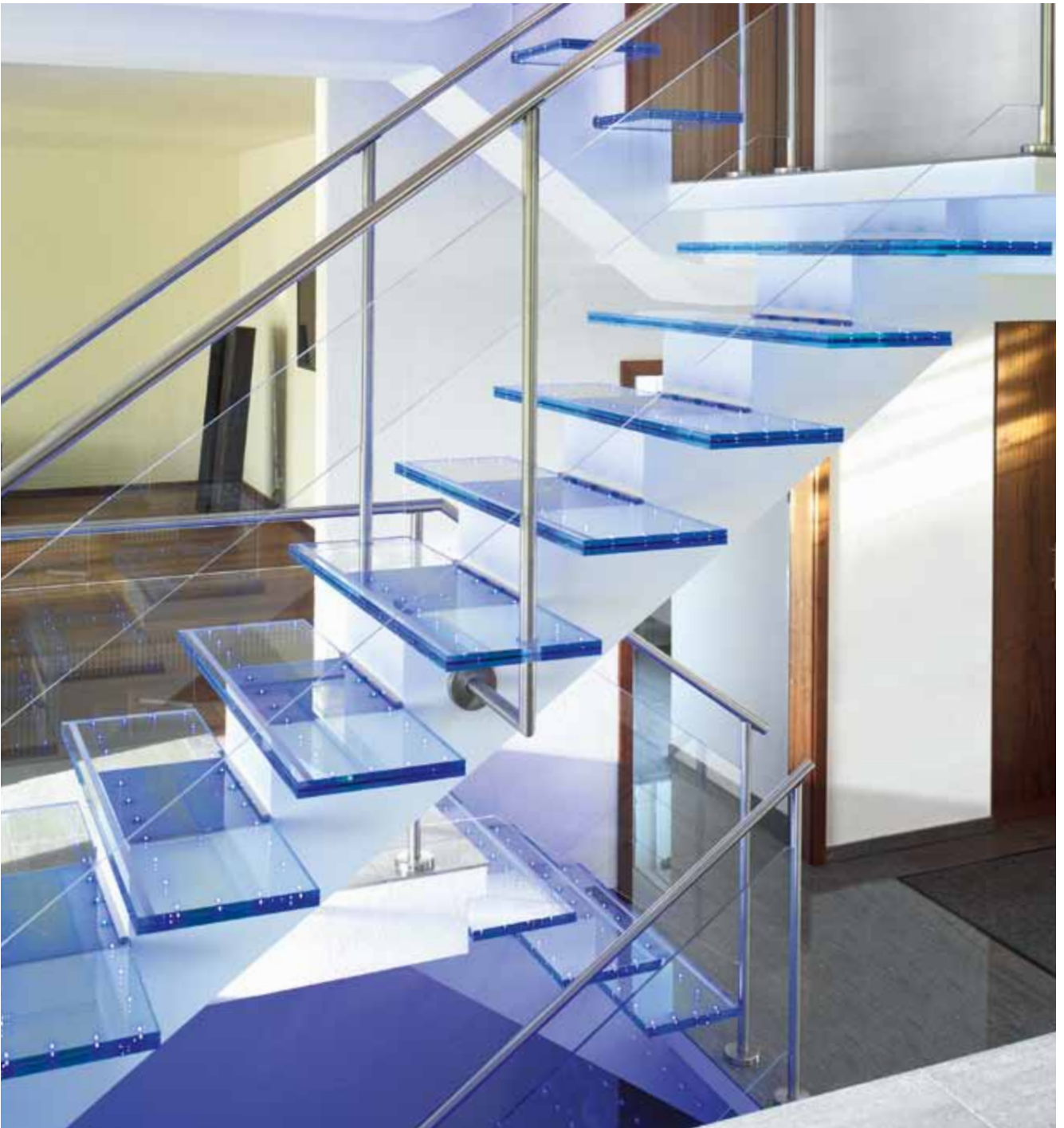
Smart glasses

SCHOTT is an international technology group with more than 125 years of experience in the areas of specialty glasses and materials and advanced technologies. With our high-quality products and intelligent solutions, we contribute to our customers' success and make SCHOTT part of everyone's life.

SCHOTT works closely with architects and designers to extend the boundaries of design and create new opportunities for building culture – in terms of design and space, indoors and outdoors, for solar power and fire protection, aesthetics and functionality – sustainable and custom tailored. That's what makes SCHOTT a qualified partner for architecture and design.

Cover: EXPO visitors entering the German Pavilion through a tunnel. The right wall consists of 9,000 MAGIRA® LightPoints from SCHOTT.
Right: Stairs with laminated safety glass consisting of triple LED PVB laminated glasses in a private villa in Emmental

Smart glasses from SCHOTT use electronic and optical technology phenomena to provide an innovative scope design and space utilization. SCHOTT® MAGIRA LightPoints LED glass uses bright LED highlights that seem to float the glass without any visible wiring. Privacy is cleverly controlled with the help of SCHOTT MAGIRA® SmartView switchable glass.



LEDs in glass

Floating points of light

Sparkling, colorful and striking: SCHOTT Magira® LightPoints LED glass combines the strong accent of color-variable light diodes with modern glass technology. The result is a smart glass that glows without any visible cables or wiring. LEDs are embedded in laminated glass and powered by a transparent conductive layer.

Precision-shaped glass composition

Our patented LED system is centered around a conductive, coated float glass equipped with LEDs. Besides float glass, other options for the laminate cover glass include white glass, IMERA® colored glasses or fused multi-colored glasses. Insulating glass structures can be produced to add fire protection, solar protection or serve a number of other purposes.

One technique, many faces

LEDs are available in cool white, warm white, blue, green, red and yellow. These can all be used in different densities and quantities. Because the layer that conducts the current is pre-structured, the LEDs can be controlled individually. This makes flashing effects, running lights and other animations possible.

Impressive presentations

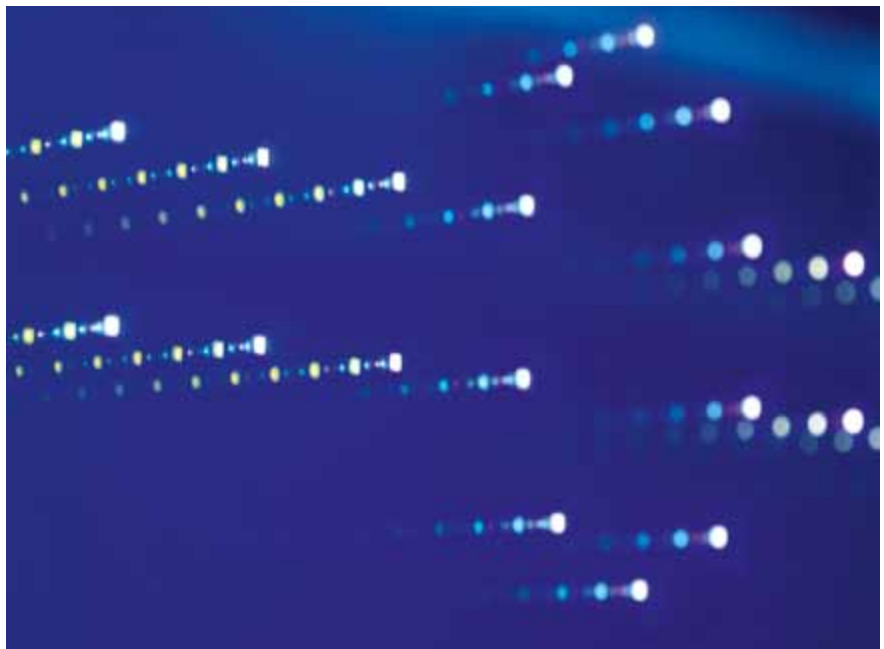
Glazing projects that feature MAGIRA® LightPoints LED glass are highlights in the truest sense of the word – at trade fairs, exhibitions, as well as in showrooms and shops. They provide an impressive display for products and goods, can be used to upgrade furniture and add the finishing touches to premium interior elements such as partitions, doors, stairs, or lighted ceilings. This special glass can even be used in the façades of buildings, as fall-safe balustrades or elevator and overhead glazing.

MAGIRA® LightPoints LED glass

- > Floating highlights
- > LEDs in a variety of colors
- > Invisible power supply
- > Individually controllable

Left: Detailed view of the EXPO Tunnel in Shanghai: The right wall consists of NARIMA® color effects glass and 9,000 MAGIRA® LightPoints.

Right: Place de l'Europe, Luxembourg: The elevator to the parking garage is glazed with MAGIRA® LightPoints LED glass. The LEDs floating in the glass not only serve as a design element, but also point people in the right direction in the dark.





Transparency at the touch of a button

Switchable glass, flexible use

SCHOTT MAGIRA® SmartView switchable glass ensures discretion that can be switched on or off as often as you'd like. The electrically-controlled change between opaque and transparent quality paves the way for flexible, multi-functional use of one room.

Future oriented technology

The core of the symmetric glass structure is a polymer matrix of liquid crystal molecules. This liquid crystal film is encased by electroconductive foils and is sandwiched between two thin cover glass panes. At rest, the liquid crystals spread out amorphously to create a translucent appearance. When current flows through the matrix, the crystals arrange themselves in such a way that light refraction disappears and the glass turns transparent.

Versatile in use

In the business world, MAGIRA® SmartView switchable glass can be used in conference rooms and offices to allow people to work without being disturbed. When opaque, it can also make an excellent back projection screen. MAGIRA® SmartView switchable glass adds dynamic presentation effects to the display cases showing goods and objects; other applications can be used wherever discretion is temporarily needed, in high-end residential buildings, for example, changing rooms or restrooms, restaurants or event locations.

Durable and easy to clean

Despite the innovative and high-tech nature of MAGIRA® SmartView switchable glass. Its installation, maintenance and care are a snap. It can be used anywhere. Power is supplied economically (with an upstream transformer) via the normal power grid. This special glass can be controlled not only with wall switches and remote controls; it can also be automated with timers, motion detectors or door lock contacts.

MAGIRA® SmartView

- > switchable glass
- > Electrically switchable
- > Durable
- > Low-maintenance
- > Easy to clean



Left: Thanks to MAGIRA® SmartView switchable glass, rooms can be easily used for different purposes.

In the opaque state, the glass can even be used as a back projection screen.

Right: MAGIRA® SmartView switchable glass used in an office. By pressing the on-off switch, the opaque glass turns transparent. MAGIRA® SmartView switchable glass offers creative design options for architects and planners.

Photos: Goldbach Kirchner





New ideas about glass

Expertise for striking out in new directions

SCHOTT has the expertise to make smart glass solutions even smarter. This allows architects and designers to plan additional functions based on their requirements, rethink the traditional understanding of space and use glass in ways that – until only recently – no one would have believed possible.

Endless possibilities

SCHOTT processes its smart glass solutions into laminated safety and/or insulating glass and application-specific solutions on demand. This opens up countless options in terms of function and design; light accents with colored, mirrored or fused glass can easily be produced to add solar, sound or thermal protection. A composite of MAGIRA® SmartView switchable glass and SCHOTT radiation shielding glass brings protection, insight and discretion to laboratories and medical facilities. Used in combination with PYRAN® fire-rated glasses, smart glasses can also serve as fire-resistant glazings.

Incredible effects

For the first time ever, at its site in Mainz, SCHOTT has combined LEDs and a switchable polymer matrix. This was made possible by a special, triple – laminate composite that integrates both our LightPoints LED glass and the switching function of SmartView – two circuits enable the two functions to be controlled separately. Conductive glass can also supply power to external speakers or spots. Even door handles in all-glass doors can be illuminated without any visible wiring.

Unlimited designs

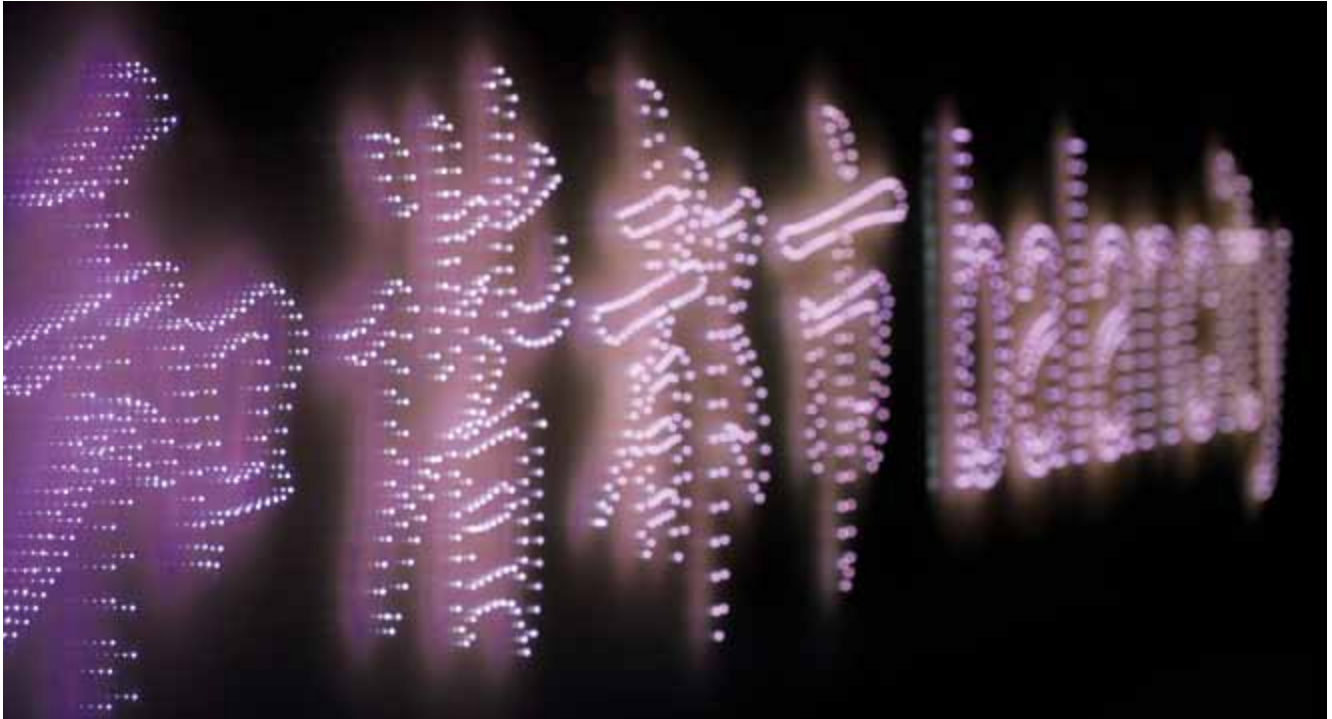
SCHOTT paves the way for architects and designers to play with glass in unexpected dimensions: dynamic lighting scenarios; back projections; information transmission through signage based on individually controlled LEDs; changing perceptions of space; and focused, intuitive and flexible routing are but a few of the groundbreaking design options SCHOTT makes available with smart glass and its unique expertise.



Left: Combination of LEDs (LightPoints) and a polymer matrix (SmartView)

Right: OPALIKA® flashed white opal glass with RGB controlled backlighting





SCHOTT MAGIRA® LightPoints LED glass at the German Pavilion "Balancity" at EXPO 2010 in Shanghai

Smart glass from SCHOTT

Expertise in glass

Smart glasses open up new creative avenues for design and architecture. With expert advice and a wide range of processing options, SCHOTT helps you to fully explore these possibilities and develop them for groundbreaking planning. Whether the goal is to integrate additional functions or to match the dimensions of innovation to the location, SCHOTT is there to provide advice and assistance and develop tailor-made solutions for your project.

Please contact us.

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